

BIBLIOGRAPHY AND INDEX OF CATALOGUES OF TYPE, FIGURED AND CITED FOSSILS IN MUSEUMS IN GREAT BRITAIN AND IRELAND (SUPPLEMENT 1975–1996)

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ABSTRACT. Data on the substantial holdings of type, figured and cited fossils in many institutions in Great Britain and Ireland are summarized in numerous published catalogues, which are an indispensable aid in tracing material especially for taxonomic studies. Taxonomic, stratigraphical and museum location indexes are provided for catalogues published over the past 20 years. Some useful unpublished reports containing similar information are also noted.

A PREVIOUS collation of documented holdings of type, figured and cited fossils in museums and other institutions throughout the British Isles listed over 100 catalogues produced since the early 1890s (Bassett 1975). Over the past 20 years or so this data base has expanded considerably with the publication of about three-quarters as many again catalogues, notes and reports that identify collections or individual specimens within these categories. Reasons for this significant expansion are varied, but they are welcome in demonstrating the growth of collective institutional and individual responsibilities to ensure that essential reference collections are properly curated and conserved for the future, and that details of them are widely publicized (see Bassett 1975, pp. 754–755). The compilations continue to form indispensable reference sources for palaeontologists. In addition, they also serve to emphasize the growing acceptance of responsibility by many institutions in meeting the requirements for safeguarding type material as summarized under Recommendation 72G of the International Code of Zoological Nomenclature (International Trust for Zoological Nomenclature 1985, p. 147). It is relevant here to repeat this Recommendation of the Code which states that:

Every institution in which name-bearing types are deposited should

- (1) ensure that all are clearly marked so that they will be unmistakably recognized as name-bearing types;
- (2) take all necessary steps for their safe preservation;
- (3) make them accessible for study;
- (4) publish lists of name-bearing types in its possession or custody; and
- (5) so far as possible, communicate information concerning name-bearing types when requested.

Much of the impetus for the growing production of these data in the British Isles stems from the work and encouragement of the Geological Curators' Group (GCG), formed in 1974 and working since 1976 as a Specialist Group of the Geological Society, London. Initially through its *Newsletter*, and since 1980 via its more formal publication, *The Geological Curator*, the GCG has regularly published catalogue data and tracked down many individual specimens and collections that were previously 'missing' or presumed to be irretrievably lost, including material in private collections. Among the positive results of these detailed searches is the fact that a good many specimens in private collections have now been donated to institutions for safe keeping and wider availability for scientific study, and some organizations without properly trained palaeontological

and/or conservation staff have similarly transferred material to museums in order to ensure the same aims.

The influential survey and report on the state and status of geological collections throughout UK museums, also generated by the GCG (Doughty 1981), gave added stimulus to museums to investigate and to document properly their holdings of fossils. This report discovered, for example, that of 64 museums known to house type fossil material, 35 had no qualified curatorial staff, and many others of the 288 admitting to housing geological collections knew very little in detail of their contents. Activities of GCG members were focused sharply by the Doughty report in order to remedy these deficiencies. At the same time, activities of the larger museums with full time curatorial staff continued to include the publication of type/figured/cited catalogues. Collectively, this multitude of activity since 1975 forms the basis for this bibliography and index, although a few pre-1975 publications overlooked in the earlier compilation (Bassett 1975), are also included.

BIBLIOGRAPHY

Most of the publications listed here contain inventory data for individual fossil specimens with information on the repository, museum registration numbers, type data (where applicable), and details of page, plate, and figure numbers in a previous publication referring to the particular specimen. Descriptive taxonomic publications are not included. In the few cases where all the inventory/reference data are not quoted, details will generally allow an individual specimen to be identified.

- ADAMS, C. G. 1960. A note on two important collections of Foraminifera in the British Museum (Natural History). *Micropaleontology*, **6**, 417–418.
- HARRISON, C. A. and HODGKINSON, R. L. 1980. Some primary type specimens of Foraminifera in the British Museum (Natural History). *Micropaleontology*, **26**, 1–16.
- ANDREWS, S. M. 1982. 38–51. In *The discovery of fossil fishes in Scotland up to 1845 with checklists of Agassiz's figured specimens*. Royal Scottish Museum Studies, Royal Scottish Museum, Edinburgh, 87 pp.
- BAIRD, W. J. 1980. A catalogue of trilobites in the Royal Scottish Museum, Edinburgh. *Royal Scottish Museum Information Series, Geology*, **8**, i–iv, 1–72.
- BENTON, M. J. 1979. H. A. Nicholson (1844–1899), invertebrate palaeontologist: bibliography and catalogue of his type and figured material. *Royal Scottish Museum Information Series, Geology*, **7**, i–viii, 1–94.
- and TREWIN, N. H. 1978. Catalogue of the type and figured material in the Palaeontology Collection, University of Aberdeen, with notes on the H. A. Nicholson collection. *Publications of the Department of Geology and Mineralogy, University of Aberdeen*, **2**, i–iv, 1–28.
- BOYD, M. J. 1983. Catalogue of type, figured and cited fossils in Kingston upon Hull City Museums. *Geological Curator*, **3**, 476–485. [+ 3 pp. undated typescript Supplements Nos 1–3].
- 1986. Supplement to the catalogue of the Carboniferous amphibians in the Hancock Museum, Newcastle upon Tyne. *Transactions of the Natural History Society of Northumbria*, **46** (Supplement), 1–8.
- and TURNER, S. 1980. Catalogue of the Carboniferous amphibians in the Hancock Museum, Newcastle upon Tyne. *Transactions of the Natural History Society of Northumbria*, **46**, 1–24.
- BUTLER, D. 1980. Collections and collectors of note. 38. North Devon Athenaeum, Barnstaple. B) Figured Devonian fossils in the collections. *Geological Curator*, **2**, 588–592.
- CAMPBELL, E. 1976. *Catalogue of type and figured fossils in Glasgow Museum*. 59 pp. [unpublished typescript catalogue; limited distribution].
- CHANDLER, G. and HANNAH, I. C. 1949. [List of type and figured specimens in the Dudley collection]. 5–9. In *Dudley as it was and as it is today*. Batsford, London, xii + 208 pp.
- CLARK, R. D. 1982. Type, figured and cited Jurassic Cephalopoda in the collection of the Institute of Geological Sciences. *Report of the Institute of Geological Sciences*, **82/9**, ii + 104 pp.
- COCKS, L. R. M. 1978. A review of British Lower Palaeozoic brachiopods, including a synoptic revision of Davidson's Monograph. *Monograph of the Palaeontographical Society*, **131** (549), 1–256.
- CRANE, M. D. 1980a. An annotated list of material in the City of Bristol Museum and Art Gallery collected by T. R. Fry. *Geological Curator*, **2**, 563–571.
- 1980b. Catalogue of type, figured and cited fossils in the City of Bristol Museum and Art Gallery. Part

- 1, *Plantae. Geological Curator*, **2**, Supplement, 1–17, i–iv.
- and GETTY, T. A. 1975. Geological collections and collectors of note. 8. An historical account of the palaeontological collections formed by R. W. Hooley (1865–1923). *Newsletter of the Geological Curators' Group*, **4**, 170–179.
- CRAWLEY, M. 1988. *Catalogue of the type and figured specimens of macrofossil algae in the British Museum (Natural History)*. British Museum (Natural History), London, 52 pp.
- CROSS, T. 1975a. Type, figured and cited material in the palaeontological collections of the City Museum, Peterborough. *Newsletter of the Geological Curators' Group*, **4**, 180–183.
- 1975b. *A catalogue of the fossil vertebrates in the City Museum, Peterborough. Part One, Reptiles and Fish*. City Museum and Art Gallery, Peterborough, 21 pp.
- DUFFIN, C. 1978. Collections and collectors of note. 4. The Bath geological collections. The importance of certain vertebrate fossils collected by Charles Moore: an attempt at scientific perspective. *Newsletter of the Geological Curators' Group*, **2**, 59–67.
- 1979. Collections and collectors of note. 4. The Bath geological collections. The Moore collection of Upper Liassic crocodiles: a history. *Newsletter of the Geological Curators' Group*, **2**, 235–252.
- EAGAR, M. and PREECE, R. 1977. Collections and collectors of note. 14. The Manchester Museum. B. List of type specimens in the Museum since 1952. *Newsletter of the Geological Curators' Group*, **11**, 25–33.
- ENSON, P. C. 1983. Lost and found. 140. Silvester, N. L. *Geological Curator*, **3**, 489.
- GARRAD, L. S. 1979. Collections and collectors of note. 16. The Manx Museum shells from 'The Manxland Drift'. *Newsletter of the Geological Curators' Group*, **2**, 231–232.
- HANCOCK, E. G., HOWELL, A. and TORRENS, H. S. 1976. Geological collections and collectors of note: 11. Bolton Museum: 3. Palaeontological type material so far recognised in Bolton Museum. *Newsletter of the Geological Curators' Group*, **7**, 332–335.
- HODGKINSON, R. L. 1995. The Hull University collection of Ostracoda in the Natural History Museum, London; sources of type and figured material. *Micropaleontology*, **41**, 381–382.
- JOYSEY, K. A. 1960. Note on the Brady Collection of Foraminifera. *Micropaleontology*, **6**, 416.
- KNELL, S. 1986. Abingdon's Arkell ammonites. *Geological Curator*, **4**, 510.
- LEWIS, D. N. 1986. *Catalogue of the type and figured specimens of fossil Echinoidea in the British Museum (Natural History)*. British Museum (Natural History), London, 85 [+ 10] pp., 5 pls.
- 1993. Catalogue of the type and figured specimens of fossil Asteroidea and Ophiuroidea in the Natural History Museum. *Bulletin of the Natural History Museum, Geology Series*, **49**, 47–80.
- LOEFFLER, E. J. and CRANE, M. D. 1982. Catalogue of type, figured and cited fossils in the City of Bristol Museum and Art Gallery. Part 2, Invertebrata: Porifera, Coelenterata, Bryozoa. *Geological Curator*, **3**, Supplement, 19–37.
- MANCEÑO, M. O. and DAMBORENEA, S. E. 1978. Comments on some type and figured brachiopods and bivalves in the Yorkshire Museum. *Newsletter of the Geological Curators' Group*, **2**, 122–123.
- MITCHELL, M. 1986. The fossil collection of C. B. Salter, from Cliff Quarry, Compton Martin, Mendip Hills. *Geological Curator*, **4**, 487–491.
- MORRIS, S. F. 1980. *Catalogue of the type and figured specimens of fossil Crustacea (excluding Ostracoda), Chelicerata, Myriapoda and Pycnogonida in the British Museum (Natural History)*. British Museum (Natural History), London, iv + 53 pp.
- 1988. A review of British trilobites including a synoptic revision of Salter's monograph. *Monograph of the Palaeontographical Society*, **140** (574), 1–316.
- and FORTEY, R. A. 1985. *Catalogue of the type and figured specimens of Trilobita in the British Museum (Natural History)*. British Museum (Natural History), London, 183 pp., 8 pls.
- MURRAY, J. W. and TAPLIN, C. M. 1984. The W. B. Carpenter Collection of Foraminifera: a catalogue. *Journal of Micropaleontology*, **3**, 55–58.
- NEWMAN, A. and CHATT-RAMSEY, J. 1988. *A catalogue of the specimens figured in 'The Fossil Flora' by John Lindley (1799–1865) and William Hutton (1799–1860) held by the Hancock Museum, Newcastle upon Tyne, including a biography of William Hutton*. The Hancock Museum, Newcastle upon Tyne, viii + 67 pp.
- NUDDS, J. R. 1982a. Catalogue of type, figured and referred fossils in the Geological Museum of Trinity College, Dublin: Part 1 (Protozoa, Porifera, Archaeocyatha, Coelenterata, Bryozoa). *Journal of Earth Sciences, Royal Dublin Society*, **4**, 133–165.
- 1982b. Catalogue of type, figured and referred fossils in the Geological Museum of Trinity College, Dublin: Part 2 (Brachiopoda, Mollusca). *Journal of Earth Sciences, Royal Dublin Society*, **5**, 61–89.
- 1982c. Catalogue of type and figured corals from the Geological Museum, Trinity College, Dublin. *Fossil Cnidaria*, **11**, 19–26.

- 1983. Catalogue of type, figured and referred fossils in the Geological Museum of Trinity College, Dublin: Part 3 (Arthropoda, Echinodermata, Graptoloidea, Conodontophorida, scolecodonts, Chitinozoa, Problematica, symbiosis, trace fossils, Vertebrata). *Journal of Earth Sciences, Royal Dublin Society*, **5**, 153–190.
- 1984. Catalogue of type, figured and referred fossils in the Geological Museum of Trinity College, Dublin: Part 4 (Plantae). *Irish Journal of Earth Sciences*, **6**, 47–93.
- [— Note: Nudds 1982a, 1982b, 1983, 1984 were also re-issued, without change of pagination, by Trinity College, Dublin, as a single bound volume: *Catalogue of type, figured and referred fossils in the Geological Museum of Trinity College, Dublin*].
- 1988. Catalogue of type, figured, and referred fossils in the Geological Museum of Trinity College, Dublin: Supplement (Animalia). *Irish Journal of Earth Sciences*, **9**, 177–196.
- 1989. Catalogue of type, figured, and referred fossils in the Geological Museum of Trinity College, Dublin: Supplement (Plantae). *Irish Journal of Earth Sciences*, **10**, 43–53.
- 1992a. Catalogue of type, figured and referred fossils in the Geological Department of the Manchester Museum. *Proceedings of the Yorkshire Geological Society*, **49**, 81–94.
- 1992b. *The R. M. C. Eagar Collection of non-marine bivalves; type and figured specimens in the Geological Department of the Manchester Museum*. Manchester Museum Publications, New Series, No. NS.6.92. [microfiche].
- OWENS, R. M. and BASSETT, M. G. 1995. *Catalogue of type, figured and cited fossils in the National Museum of Wales. Supplement 1971–1994*. National Museum of Wales, Geological Series No. 12, Cardiff, 250 pp.
- PARKES, M. A. and SLEEMAN, A. G. 1997. *Catalogue of type, figured and cited fossils in the Geological Survey of Ireland*. Geological Survey of Ireland.
- PATON, R. L. 1976. A catalogue of fossil vertebrates in the Royal Scottish Museum, Edinburgh. Part Five. Acanthodii. *Royal Scottish Museum Information Series, Geology*, **6**, i–viii, 1–40.
- 1981. A catalogue of fossil vertebrates in the Royal Scottish Museum, Edinburgh. Part Six. Placodermi. *Royal Scottish Museum Information Series, Geology*, **9**, i–viii, 1–70.
- PATTISON, J. 1977. Catalogue of the type, figured and cited specimens in the King Collection of Permian fossils. *Bulletin of the Geological Survey of Great Britain*, **62**, 33–44.
- PHILLIPS, D. 1977. *Catalogue of the type and figured specimens of Mesozoic Ammonoidea in the British Museum (Natural History)*. British Museum (Natural History), London, iv + 220 pp.
- 1982a. *Catalogue of the type and figured specimens of fossil Cephalopoda (excluding Mesozoic Ammonoidea) in the British Museum (Natural History)*. British Museum (Natural History), London, 94 pp.
- 1982b. *Additions to the catalogues of type and figured fossil Cephalopoda in the British Museum (Natural History)*. British Museum (Natural History), London, 155 pp.
- PHILLIPS, P. W. 1976. Geological collections and collectors of note: 10. Merseyside County Museums: B. List of type, figured and cited fossils. *Newsletter of the Geological Curators' Group*, **6**, 270–286.
- POWELL, H. P. and EDMONDS, J. M. 1978. List of type-fossils in the Philpot Collection, Oxford University Museum. *Proceedings of the Dorset Natural History and Archaeological Society*, **98**, 48–53.
- PYRAH, B. J. 1976. Catalogue of type and figured fossils in the Yorkshire Museum: Part 1, Porifera, Coelenterata, Bryozoa, Annelida, Brachiopoda, Crustacea, Insecta. *Proceedings of the Yorkshire Geological Society*, **41**, 35–47.
- 1977. Catalogue of type and figured fossils in the Yorkshire Museum: Part 2, Echinodermata, Bivalvia. *Proceedings of the Yorkshire Geological Society*, **41**, 241–260.
- 1978. Catalogue of type and figured fossils in the Yorkshire Museum: Part 3, Gastropoda, Polyplacophora, Scaphopoda, Cephalopoda. *Proceedings of the Yorkshire Geological Society*, **41**, 437–460.
- 1979a. Catalogue of type and figured fossils in the Yorkshire Museum: Part 4, Pisces, Reptilia, Aves, Mammalia, Plantae. *Proceedings of the Yorkshire Geological Society*, **42**, 415–437.
- 1979b. *Lingula parallela* Phillips. Type material in the Yorkshire Museum: a reply. *Newsletter of the Geological Curators' Group*, **2**, 184–185.
- RADLEY, J. D. 1996. Type, figured and cited specimens in the Museum of Isle of Wight Geology (Isle of Wight, England). *Geological Curator*, **6**, 187–193.
- RILEY, T. H. 1975. Geological and other collections of Henry Clifton Sorby. *Newsletter of the Geological Curators' Group*, **3**, 130–131.
- ROLFE, W. D. I., INGHAM, J. K., CURRIE, E. D., NEVILLE, S., BRANNAN, J. and CAMPBELL, E. 1981. *Type specimens of fossils from The Hunterian Museum and Glasgow Art Gallery and Museum*. Hunterian Museum, University of Glasgow, 8 pp. + 5 microfiches. [Glasgow's catalogue is also available in typescript version].

- SARJEANT, W. A. S. 1983. British fossil footprints in the collections of some principal British Museums. *Geological Curator*, **3**, 541–560.
- SMITH, J. D. D. 1989. The Silurian System by Roderick Impey Murchison. A catalogue of the fossils illustrated in Part II. *British Geological Survey Research Report*, **SH/89/1**, Stratigraphy Series, i–x, 1–211.
- 1996. The Silurian System by Roderick Impey Murchison. A catalogue of the fossils illustrated in Part II. Amendments and Additions. *Supplement to British Geological Survey Research Report*, **SH/89/1**, Stratigraphy Series, 9 pp. [Unpublished typescript catalogue, Feb. 1996].
- STEWART, D. I. and TORRENS, H. S. 1985. Lost and found. 47. F. Holt. *Geological Curator*, **4**, 343.
- STRACHAN, I. 1979. Collections and collectors of note. 25. Birmingham University Geological Museum. *Newsletter of the Geological Curators' Group*, **2**, 309–321.
- SUTHERLAND, A. G. 1991. A catalogue of Carboniferous corals in the National Museums of Scotland. (Based on an original catalogue by I. F. Sime, 1972). *National Museums of Scotland Information Series*, **9**, 1–46.
- TORRENS, H. S. 1978a. Collections and information found. 52. Holland, Harriet Sophia (c. 1835–1908) later Mrs Hutton mother of 52a. Hutton, Harriet Mary (1873–1937). *Newsletter of the Geological Curators' Group*, **2**, 128–129.
- 1978b. The Sherborne School Museum and the early collections and publications of the Dorset Natural History and Antiquarian Field Club. *Proceedings of the Dorset Natural History and Archaeological Society*, **98**, 32–42.
- 1979. Collections and information found. 79. Capewell, L. P. of Dudley. *Newsletter of the Geological Curators' Group*, **2**, 355.
- 1983. Collections and information found. 141. Wellcome Institute Geological Collection. *Geological Curator*, **3**, 494.
- and TAYLOR, M. A. 1988. Collections, collectors and museums of note. No. 55. Geological collectors and museums in Cheltenham 1810–1988. A case history and its lessons. *Geological Curator*, **5**, 175–213.
- TRIPP, R. P. and HOWELLS, Y. 1981. *Catalogue of the described, figured and cited Ordovician and Silurian trilobites from the Girvan district, Scotland in the British Museum (Natural History)*. British Museum (Natural History), London, 6 foldover pp. +12 microfiches.
- TUNNICLIFF, S. P. 1980. *A catalogue of the Lower Palaeozoic fossils in the collection of Major-General J. E. Portlock, R.E., LL.D., F.R.S., F.G.S. etc.* Ulster Museum, Belfast, 112 pp.
- WILLIAMS, D. M. 1988. An illustrated catalogue of the type specimens in the Greville diatom herbarium. *Bulletin of the Natural History Museum, Botany Series*, **18**, 1–148.
- WYSE JACKSON, P. N. and MONAGHAN, N. T. 1995. Transfer of the Huxley and Wright (1867) Carboniferous amphibian and fish material to Trinity College Dublin from the National Museum of Ireland. *Journal of Paleontology*, **69**, 602–603.
- and SLEEMAN, A. G. 1990. Return of type, figured, referred and other fossils from the geological collections of Trinity College Dublin to the Geological Survey of Ireland. *Bulletin of the Geological Survey of Ireland*, **4**, 243–244.

INDEX

The tripartite arrangement of the index (Taxonomic, Stratigraphical, Museums) follows that of Bassett (1975). In the taxonomic and museums indexes, the date of a publication is not given after the authors' names in cases where those authors have only one publication under their name in the bibliography; both names and dates are given in all other cases. Major taxonomic groupings are generally at Phylum level, or within commonly employed classificatory divisions that will be immediately familiar to palaeontologists. Where authors of catalogues have not themselves separated their specimens into the groupings adopted here, their genera and species are included as undifferentiated members of the highest appropriate division listed. The stratigraphical index is generally broken down to the level of geological Systems. In the Museums index, italicized information in square brackets draws attention to formal changes that have taken place in institutional names, and also to cases where material may have been transferred from one institution to another subsequent to its initial listing or description in publications.

TAXONOMIC INDEX

INVERTEBRATA

AMMONOIDEA:

See MOLLUSCA [Ammonoidea]

AMPHINEURA:

See MOLLUSCA [Amphineura]

ANNELIDA: [See also PROBLEMATICA, SYMBIOSIS]**Undifferentiated:**

ORDOVICIAN: Benton; Owens and Bassett; Tunnicliff

SILURIAN: Smith 1989, 1996

DEVONIAN: Benton

CARBONIFEROUS: Campbell; Rolfe *et al.*

JURASSIC: Pyrah 1976; Rolfe *et al.*

CENOZOIC: Benton

HOLOCENE: Benton

Scolecodonts:

ORDOVICIAN: Nudds 1983

CARBONIFEROUS: Nudds 1988

ANTHOZOA:

See CNIDARIA [Anthozoa]

ARACHNIDA:

See ARTHROPODA [Chelicerata: Arachnida]

ARCHAEOCYATHA:

See PORIFERA [Archaeocyatha]

ARTHROPODA:**Undifferentiated:**

AGE NOT INDICATED: Benton and Trewin

ORDOVICIAN: Rolfe *et al.*

SILURIAN: Rolfe *et al.*

DEVONIAN: Rolfe *et al.*

CARBONIFEROUS: Rolfe *et al.*

TRIASSIC: Rolfe *et al.*

CRETACEOUS: Rolfe *et al.*

EOCENE: Rolfe *et al.*

PLIOCENE: Rolfe *et al.*

QUATERNARY: Rolfe *et al.*

PLEISTOCENE: Rolfe *et al.*

Chelicerata [Undifferentiated]:

SILURIAN: Nudds 1992a

CARBONIFEROUS: Nudds 1992a

Chelicerata [Arachnida]:

SILURIAN: Morris 1980

OLD RED SANDSTONE: Morris 1980

DEVONIAN: Morris 1980

CARBONIFEROUS: Benton; Hancock *et al.*; Morris 1980; Owens and Bassett; Steward and Torrens; Strachan

EOCENE: Morris 1980

OLIGOCENE: Morris 1980

MIOCENE: Morris 1980

PLEISTOCENE: Morris 1980

Chelicerata [Merostomata]:

CARBONIFEROUS: Benton

Crustacea [Undifferentiated]:

AGE NOT INDICATED: Pyrah 1976

SILURIAN: Parkes and Sleeman

CARBONIFEROUS: Mitchell; Nudds 1992a; Parkes and Sleeman; Strachan

TRIASSIC: Nudds 1992a

JURASSIC: Pyrah 1976

CRETACEOUS: Nudds 1992a; Pyrah 1976

CENOZOIC: Pyrah 1976

HOLOCENE: Nudds 1983

Crustacea [Branchiopoda]:

OLD RED SANDSTONE: Morris 1980

DEVONIAN: Morris 1980

CARBONIFEROUS: Morris 1980

PERMO-CARBONIFEROUS: Morris 1980

PERMIAN: Morris 1980

PERMO-TRIASSIC: Morris 1980

TRIASSIC: Morris 1980

JURASSIC: Morris 1980

JURASSIC/LOWER CRETACEOUS: Morris 1980

CRETACEOUS: Morris 1980

OLIGOCENE: Morris 1980

Crustacea [Cirripedia]:

SILURIAN: Strachan

JURASSIC: Torrens 1978a

CRETACEOUS: Morris 1980

CENOZOIC: Morris 1980

EOCENE: Morris 1980

MIOCENE: Morris 1980

PLIOCENE: Morris 1980

PLEISTOCENE: Morris 1980

HOLOCENE: Morris 1980

Crustacea [Cycloidea]:

CARBONIFEROUS: Campbell; Rolfe *et al.*

Crustacea [Malacostraca]:

CAMBRIAN: Morris 1980

ORDOVICIAN: Morris 1980

SILURIAN: Benton; Morris 1980

DEVONIAN: Butler; Morris 1980

CARBONIFEROUS: Morris 1980; Owens and Bassett

PERMIAN: Morris 1980

TRIASSIC: Morris 1980

JURASSIC: Morris 1980; Torrens 1978a

CRETACEOUS: Morris 1980

PALEOCENE: Morris 1980

EOCENE: Morris 1980

OLIGOCENE: Morris 1980

MIOCENE: Morris 1980

PLIOCENE: Morris 1980

PLEISTOCENE: Morris 1980

Crustacea [Ostracoda]:

AGE NOT INDICATED: Rolfe *et al.*

ORDOVICIAN: Benton; Owens and Bassett

- SILURIAN: Benton; Owens and Bassett
DEVONIAN: Butler
CARBONIFEROUS: Campbell; Rolfe *et al.*
JURASSIC: Adams; Hodgkinson
CRETACEOUS: Hodgkinson
CENOZOIC: Hodgkinson
PALEOGENE: Hodgkinson
NEOGENE: Hodgkinson
MIOCENE: Hodgkinson
PLEISTOCENE: Hodgkinson
HOLOCENE: Hodgkinson
- Crustacea [Phyllocarida]:**
SILURIAN: Campbell; Rolfe *et al.*; Smith 1989
CARBONIFEROUS: Campbell; Rolfe *et al.*
- Eurypterida:**
CAMBRIAN: Morris 1980
SILURIAN: Campbell; Morris 1980; Nudds 1983; Rolfe *et al.*
OLD RED SANDSTONE: Crane 1980a; Morris 1980
DEVONIAN: Morris 1980
CARBONIFEROUS: Campbell; Crane 1980a; Morris 1980; Owens and Bassett; Rolfe *et al.*
- Insecta:**
CARBONIFEROUS: Nudds 1983; Nudds 1992a; Owens and Bassett
TRIASSIC: Nudds 1992a; Pyrah 1976
CRETACEOUS: Radley
- Myriapoda:**
OLD RED SANDSTONE: Morris 1980
CARBONIFEROUS: Morris 1980
PLEISTOCENE: Morris 1980
- Synxiphosura:**
SILURIAN: Morris 1980
- Trilobita:**
AGE NOT INDICATED: Baird
CAMBRIAN: Morris 1988; Morris and Fortey; Owens and Bassett
TREMADOC: Rolfe *et al.*; Strachan
ORDOVICIAN: Crane 1980a; Morris 1988; Morris and Fortey; Nudds 1983, 1988, 1992a; Owens and Bassett; Parkes and Sleeman; Rolfe *et al.*; Tripp and Howells; Tunnicliff
SILURIAN: Chandler and Hannah; Morris 1988; Morris and Fortey; Nudds 1983, 1988; Owens and Bassett; Parkes and Sleeman; Rolfe *et al.*; Smith 1989, 1996; Strachan; Tripp and Howells
DEVONIAN: Butler; Morris 1988; Morris and Fortey; Owens and Bassett; Rolfe *et al.*
CARBONIFEROUS: Campbell; Eagar and Preece; Morris 1988; Morris and Fortey; Nudds 1983, 1988, 1992a; Owens and Bassett; Parkes and Sleeman; Rolfe *et al.*
PERMIAN: Owens and Bassett
- Trilobitomorpha:**
ORDOVICIAN: Benton
- SILURIAN: Benton
DEVONIAN: Benton
- Xiphosura:**
SILURIAN: Morris 1980
CARBONIFEROUS: Morris 1980; Owens and Bassett
PERMIAN: Morris 1980
CRETACEOUS: Morris 1980
- ASTEROIDEA:**
See ECHINODERMATA [Asteroidea]
- ASTEROZOA:**
See ECHINODERMATA [Asterozoa]
- BELEMNOIDEA:**
See MOLLUSCA [Belemnoidea]
- BIVALVIA:**
See MOLLUSCA [Bivalvia]
- BLASTOIDEA:**
See ECHINODERMATA [Blastoidea]
- BRACHIOPODA:** [See also SYMBIOSIS]
AGE NOT INDICATED: Benton and Trewin; Pyrah 1976; Torrens and Taylor
LOWER PALAEOZOIC: Wyse Jackson and Sleeman
CAMBRIAN: Cocks; Owens and Bassett
TREMADOC: Rolfe *et al.*; Strachan
ORDOVICIAN: Benton; Cocks; Nudds 1982b, 1992a; Owens and Bassett; Parkes and Sleeman; Rolfe *et al.*; Tunnicliff
SILURIAN: Benton; Chandler and Hannah; Cocks; Nudds 1982b; Owens and Bassett; Parkes and Sleeman; Rolfe *et al.*; Smith 1989, 1996; Torrens 1979; Tunnicliff
OLD RED SANDSTONE: Smith 1989
DEVONIAN: Benton; Butler; Owens and Bassett; Rolfe *et al.*
CARBONIFEROUS: Campbell; Cocks; Manceñido and Damborenea; Mitchell; Nudds 1982b, 1992a; Owens and Bassett; Parkes and Sleeman; Pyrah 1976, 1979b; Rolfe *et al.*
PERMIAN: Nudds 1992a; Pattison
TRIASSIC: Rolfe *et al.*
JURASSIC: Manceñido and Damborenea; Owens and Bassett; Pyrah 1976; Rolfe *et al.*
CRETACEOUS: Boyd 1983; Pyrah 1976; Rolfe *et al.*
CENOZOIC: Pyrah 1976
MIOCENE: Rolfe *et al.*
HOLOCENE: Benton
- BRANCHIOPODA:**
See ARTHROPODA [Crustacea: Branchiopoda]
- BRYOZOA:**
AGE NOT INDICATED: Benton and Trewin; Hancock *et al.*
ORDOVICIAN: Benton; Eagar and Preece; Nudds 1992a; Owens and Bassett; Tunnicliff
SILURIAN: Benton; Chandler and Hannah; Eagar and Preece; Loeffler and Crane; Nudds 1992a; Owens and Bassett; Rolfe *et al.*; Smith 1989

- DEVONIAN: Benton; Butler
 CARBONIFEROUS: Benton; Campbell; Eagar and Preece; Loeffler and Crane; Nudds 1982a; Owens and Bassett; Parkes and Sleeman; Rolfe *et al.*
 PERMO-CARBONIFEROUS: Benton
 PERMIAN: Pattison
 JURASSIC: Loeffler and Crane; Owens and Bassett; Pyrah 1976
 MIOCENE: Rolfe *et al.*
 PLIOCENE: Rolfe *et al.*
 QUATERNARY: Pyrah 1976
 PLEISTOCENE: Rolfe *et al.*
 HOLOCENE: Benton
- CALCICHORDATA:**
 CAMBRIAN: Owens and Bassett
 ORDOVICIAN: Owens and Bassett
- CEPHALOPODA:**
 See **MOLLUSCA [Cephalopoda]**
- CHELICERATA:**
 See **ARTHROPODA [Chelicerata]**
- CHITINOZOA:**
 SILURIAN: Nudds 1983, 1988
- CIRRIPEDIA:**
 See **ARTHROPODA [Crustacea: Cirripedia]**
- CNIDARIA:**
Undifferentiated:
 AGE NOT INDICATED: Nudds 1982c
 PRECAMBRIAN: Nudds 1988
 ORDOVICIAN: Rolfe *et al.*
 SILURIAN: Parkes and Sleeman; Rolfe *et al.*
 DEVONIAN: Rolfe *et al.*
 CARBONIFEROUS: Nudds 1982a, 1988; Parkes and Sleeman; Pyrah 1976; Rolfe *et al.*
 TRIASSIC: Rolfe *et al.*
 JURASSIC: Pyrah 1976; Rolfe *et al.*
 CRETACEOUS: Pyrah 1976; Rolfe *et al.*
 CENOZOIC: Pyrah 1976
 EOCENE: Rolfe *et al.*
 OLIGOCENE: Rolfe *et al.*
 MIOCENE: Rolfe *et al.*
 PLIOCENE: Rolfe *et al.*
 QUATERNARY: Pyrah 1976
 PLEISTOCENE: Rolfe *et al.*
Anthozoa [Undifferentiated]:
 ORDOVICIAN: Tunnicliff
 SILURIAN: Smith 1989, 1996
 CARBONIFEROUS: Owens and Bassett; Sutherland
 PERMIAN: Pattison
 JURASSIC: Loeffler and Crane
Anthozoa [Heterocorallia]:
 AGE NOT INDICATED: Benton and Trewin
 CARBONIFEROUS: Benton; Campbell; Rolfe *et al.*
Anthozoa [Octocorallia]:
 AGE NOT INDICATED: Benton and Trewin
 HOLOCENE: Benton
- Anthozoa [Rugosa]:**
 AGE NOT INDICATED: Benton and Trewin
 ORDOVICIAN: Benton
 SILURIAN: Benton
 DEVONIAN: Benton
 CARBONIFEROUS: Benton; Campbell; Rolfe *et al.*
- Anthozoa [Scleractinia]:**
 AGE NOT INDICATED: Benton and Trewin
 HOLOCENE: Benton
- Anthozoa [Tabulata]:**
 AGE NOT INDICATED: Benton and Trewin
 ORDOVICIAN: Benton
 SILURIAN: Benton
 DEVONIAN: Benton
 CARBONIFEROUS: Benton
- Anthozoa [Zoantharia]:**
 SILURIAN: Loeffler and Crane
 CARBONIFEROUS: Loeffler and Crane
 JURASSIC: Loeffler and Crane
- Cyclozoa:**
 PRECAMBRIAN: Owens and Bassett
- Hydrozoa:**
 ORDOVICIAN: Tunnicliff
 TRIASSIC: Benton
 PLIOCENE: Benton
 HOLOCENE: Benton
- Scyphozoa:**
 LOWER PALAEOZOIC: Loeffler and Crane
 ORDOVICIAN: Tunnicliff
 SILURIAN: Tunnicliff; Smith 1989
 CARBONIFEROUS: Loeffler and Crane
- COELENTERATA:**
 See **CNIDARIA**
- COLEOIDEA:**
 See **MOLLUSCA [Coleoidea]**
- CONODONTA:**
 See **VERTEBRATA [CONODONTA]**
- CONULARIIDA:**
 See **CNIDARIA [Scyphozoa]**
- CONULATA:**
 See **CNIDARIA [Scyphozoa]**
- CRICOCONARIDA:**
Tentaculitida:
 SILURIAN: Smith 1989
 DEVONIAN: Butler
- CRINOIDEA:**
 See **ECHINODERMATA [Crinoidea]**
- CRUSTACEA:**
 See **ARTHROPODA [Crustacea]**
- CYCLOIDEA:**
 See **ARTHROPODA [Crustacea: Cycloidea]**
- CYCLOZOA:**
 See **CNIDARIA [Cyclozoa]**
- CYSTOIDEA:**
 See **ECHINODERMATA [Cystoidea]**
- DENDROIDEA:**
 See **GRAPTOLITHINA [Dendroidea]**

ECHINODERMATA**[Undifferentiated]:**

- AGE NOT INDICATED: Benton and Trewin
 ORDOVICIAN: Benton; Parkes and Sleeman; Rolfe *et al.*
 SILURIAN: Benton; Pyrah 1977; Parkes and Sleeman; Rolfe *et al.*
 CARBONIFEROUS: Benton; Parkes and Sleeman; Pyrah 1977; Rolfe *et al.*
 PERMIAN: Pattison
 JURASSIC: Pyrah 1977; Rolfe *et al.*
 CRETACEOUS: Rolfe *et al.*
 CENOZOIC: Pyrah 1977
 EOCENE: Rolfe *et al.*
 MIOCENE: Rolfe *et al.*
 PLIOCENE: Rolfe *et al.*
 QUATERNARY: Pyrah 1977
 PLEISTOCENE: Rolfe *et al.*
 HOLOCENE: Benton

Asteroidea:

- ORDOVICIAN: Lewis 1993
 SILURIAN: Lewis 1993
 DEVONIAN: Lewis 1993
 CARBONIFEROUS: Lewis 1993
 TRIASSIC: Lewis 1993
 JURASSIC: Lewis 1993
 CRETACEOUS: Lewis 1993
 PALEOCENE: Lewis 1993
 EOCENE: Lewis 1993

Asterozoa [Undifferentiated]:

- ORDOVICIAN: Nudds 1992a
 SILURIAN: Nudds 1992a
 CARBONIFEROUS: Nudds 1983, 1988
 JURASSIC: Nudds 1983

Blastoidea:

- DEVONIAN: Butler
 CARBONIFEROUS: Eagar and Preece; Nudds 1983, 1988, 1992a

Crinoidea:

- ORDOVICIAN: Nudds 1988, 1992a; Owens and Bassett; Tunnicliff
 SILURIAN: Chandler and Hannah; Owens and Bassett; Smith 1989, 1996; Strachan
 DEVONIAN: Butler
 CARBONIFEROUS: Nudds 1983, 1988; Phillips, P. W.
 PERMIAN: Nudds 1983
 JURASSIC: Campbell; Owens and Bassett; Phillips, P. W.; Rolfe *et al.*

Cystoidea:

- TREMADOC: Strachan
 ORDOVICIAN: Nudds 1988; Owens and Bassett; Tunnicliff

Echinoidea:

- ORDOVICIAN: Lewis 1986
 SILURIAN: Lewis 1986

CARBONIFEROUS: Lewis 1986; Nudds 1983; Phillips, P. W.; Rolfe *et al.*

PERMIAN: Lewis 1986

TRIASSIC: Lewis 1986

JURASSIC: Lewis 1986; Strachan; Torrens 1978a

CRETACEOUS: Ensom; Lewis 1986; Owens and Bassett

CENOZOIC: Lewis 1986

PALEOCENE: Lewis 1986

EOCENE: Lewis 1986

OLIGOCENE: Lewis 1986

OLIGOCENE-MIOCENE: Lewis 1986

MIOCENE: Lewis 1986; Nudds 1983

PLIOCENE: Lewis 1986

PLEISTOCENE: Lewis 1986

Holothuroidea:

JURASSIC: Hodgkinson

Ophiuroidea:

ORDOVICIAN: Lewis 1993

SILURIAN: Lewis 1993

DEVONIAN: Lewis 1993

CARBONIFEROUS: Lewis 1993

TRIASSIC: Lewis 1993

JURASSIC: Lewis 1993

CRETACEOUS: Lewis 1993

EOCENE: Lewis 1993

Parablastoidea:

ORDOVICIAN: Owens and Bassett

Stelleroidea:

JURASSIC: Boyd 1983

ECHINOIDEA:

See ECHINODERMATA [Echinoidea]

EURYPTERIDA:

See ARTHROPODA [Eurypterida]

FORAMINIFERIDA:

See PROTOZOA [Foraminiferida]

GASTROPODA:

See MOLLUSCA [Gastropoda]

GONIATITINA:

See MOLLUSCA [Ammonoidea]

GRAPTOLITHINA:**[Undifferentiated]:**

AGE NOT INDICATED: Benton and Trewin

TREMADOC: Rolfe *et al.*

ORDOVICIAN: Campbell; Owens and Bassett;

Parkes and Sleeman; Rolfe *et al.*; Tunnicliff

SILURIAN: Campbell; Owens and Bassett; Parkes

and Sleeman; Rolfe *et al.*; Smith 1989, 1996;

Tunnicliff

Dendroidea:

ORDOVICIAN: Benton

SILURIAN: Benton

Graptoloidea:

ORDOVICIAN: Benton; Nudds 1983, 1988

SILURIAN: Benton; Nudds 1983, 1988

GRAPTOLOIDEA:

See GRAPTOLITHINA [Graptoloidea]

HETEROCORALLIA:

See CNIDARIA [Anthozoa: Heterocorallia]

HOLOTHUROIDEA:

See ECHINODERMATA

HYDROZOA:

See CNIDARIA [Hydrozoa]

HYOLITHA:

ORDOVICIAN: Parkes and Sleeman

ICHTHOFOSSILS: See also VERTEBRATE FOOT-PRINTS

AGE NOT INDICATED: Benton and Trewin; Rolfe *et al.*

PRECAMBRIAN: Owens and Bassett

CAMBRIAN: Nudds 1983; Parkes and Sleeman

ORDOVICIAN: Benton; Nudds 1983; Owens and Bassett; Tunnicliff

SILURIAN: Benton; Owens and Bassett; Smith 1989, 1996

OLD RED SANDSTONE: Rolfe *et al.*

CARBONIFEROUS: Nudds 1992a; Rolfe *et al.*

PERMIAN: Nudds 1992a

TRIASSIC: Nudds 1992a; Owens and Bassett

INCERTAE SEDIS:

See [PROBLEMATICA]

INSECTA:

See ARTHROPODA [Insecta]

LAMELLIBRANCHIA:

See MOLLUSCA [Bivalvia]

MACHAERIDIA:

See PROBLEMATICA [Machaeridia]

MALACOSTRACA:

See ARTHROPODA [Crustacea: Malacostraca]

MEDUSOIDS:

See CNIDARIA [Cyclozoa]

MEROSTOMATA:

See ARTHROPODA [Chelicerata: Merostomata]

MOLLUSCA:**Undifferentiated:**

PLIOCENE: Garrad

Ammonoidea: (including Goniatitina)

DEVONIAN: Butler; Phillips, D. 1982a

CARBONIFEROUS: Campbell; Phillips, D. 1982a

PERMIAN: Phillips, D. 1982a

TRIASSIC: Phillips, D. 1977

JURASSIC: Boyd 1983; Crane 1980a; Knell; Phillips, D. 1977; Powell and Edmonds; Torrens 1978b

CRETACEOUS: Boyd 1983; Phillips, D. 1977; Radley

Amphineura:

CARBONIFEROUS: Campbell; Rolfe *et al.*

PERMIAN: Pattison

QUATERNARY: Pyrah 1978

Belemnoidea:

JURASSIC: Powell and Edmonds

Bivalvia: [See also PROBLEMATICA, SYMBIOSIS]

AGE NOT INDICATED: Benton and Trewin

ORDOVICIAN: Benton; Nudds 1982b, 1988, 1992a; Owens and Bassett; Rolfe *et al.*; Tunnicliff

SILURIAN: Benton; Nudds 1982b; Owens and Bassett; Rolfe *et al.*; Smith 1989, 1996; Tunnicliff

OLD RED SANDSTONE: Smith 1989, 1996

DEVONIAN: Butler; Parkes and Sleeman

CARBONIFEROUS: Benton; Campbell; Chandler and Hannah; Eagar and Preece; Nudds 1982b, 1988, 1992a, 1992b; Owens and Bassett; Parkes and Sleeman; Pattison; Pyrah 1977; Rolfe *et al.*

PERMIAN: Eagar and Preece; Nudds 1992a; Pattison; Rolfe *et al.*

TRIASSIC: Owens and Bassett; Rolfe *et al.*

JURASSIC: Boyd 1983; Crane 1980a; Eagar and Preece; Manceñido and Damborenea; Nudds 1992a; Owens and Bassett; Parkes and Sleeman; Pyrah 1977; Rolfe *et al.*; Strachan; Torrens 1978b

CRETACEOUS: Benton; Pyrah 1977; Radley; Rolfe *et al.*

CENOZOIC: Pyrah 1977

Eocene: Rolfe *et al.*

OLIGOCENE: Phillips, P. W.; Rolfe *et al.*

MIOCENE: Rolfe *et al.*

PLIOCENE: Rolfe *et al.*; Torrens 1983

QUATERNARY: Pyrah 1977

PLEISTOCENE: Rolfe *et al.*

HOLOCENE: Owens and Bassett; Phillips, P. W.; Rolfe *et al.*

Cephalopoda [Undifferentiated]:

AGE NOT INDICATED: Benton and Trewin

ORDOVICIAN: Benton; Owens and Bassett; Parkes and Sleeman; Phillips, D. 1982b; Rolfe *et al.*; Tunnicliff

SILURIAN: Owens and Bassett; Parkes and Sleeman; Phillips, D. 1982b; Smith 1989, 1996

OLD RED SANDSTONE: Smith 1989

DEVONIAN: Phillips, D. 1982b

CARBONIFEROUS: Nudds 1982b, 1988, 1992a; Owens and Bassett; Parkes and Sleeman; Phillips, D. 1982b; Pyrah 1978; Rolfe *et al.*

PERMIAN: Pattison

TRIASSIC: Phillips, D. 1982b; Rolfe *et al.*

JURASSIC: Clark; Nudds 1992a; Owens and Bassett; Phillips, D. 1982b; Pyrah 1978; Rolfe *et al.*; Strachan

CRETACEOUS: Nudds 1992a; Owens and Bassett; Phillips, D. 1982b; Pyrah 1978; Rolfe *et al.*

Eocene: Rolfe *et al.*

MIOCENE: Phillips, D. 1982b

Coleoidea:

PERMIAN: Phillips, D. 1982a

- TRIASSIC: Phillips, D. 1982a
 JURASSIC: Phillips, D. 1982a
 CRETACEOUS: Phillips, D. 1982a
 EOCENE: Phillips, D. 1982a
- Gastropoda:**
- AGE NOT INDICATED: Benton and Trewin
 TREMADOC: Rolfe *et al.*
 ORDOVICIAN: Benton; Nudds 1982b; Owens and Bassett; Parkes and Sleeman; Rolfe *et al.*; Tunnicliff
 SILURIAN: Benton; Owens and Bassett; Rolfe *et al.*; Smith 1989, 1996; Tunnicliff
 OLD RED SANDSTONE: Smith 1989
 DEVONIAN: Benton; Butler
 CARBONIFEROUS: Campbell; Mitchell; Nudds 1982b, 1992a; Owens and Bassett; Parkes and Sleeman; Phillips, P. W.; Pyrah 1978; Rolfe *et al.*
 PERMIAN: Nudds 1992a; Pattison
 TRIASSIC: Rolfe *et al.*
 JURASSIC: Pyrah 1978; Rolfe *et al.*
 CRETACEOUS: Pyrah 1978; Radley; Rolfe *et al.*
 CENOZOIC: Rolfe *et al.*
 PALEOGENE: Radley
 EOCENE: Pyrah 1978; Rolfe *et al.*
 OLIGOCENE: Rolfe *et al.*
 MIOCENE: Rolfe *et al.*
 PLIOCENE: Pyrah 1978; Rolfe *et al.*
 QUATERNARY: Pyrah 1978
 PLEISTOCENE: Nudds 1992a; Owens and Bassett; Rolfe *et al.*
- Nautiloidea:** [See also SYMBIOSIS]
- ORDOVICIAN: Phillips, D. 1982a; Tunnicliff
 SILURIAN: Phillips, D. 1982a; Tunnicliff
 DEVONIAN: Butler; Phillips, D. 1982a
 CARBONIFEROUS: Eagar and Preece; Phillips, D. 1982a
 PERMIAN: Phillips, D. 1982a
 TRIASSIC: Phillips, D. 1982a
 JURASSIC: Phillips, D. 1982a; Torrens and Taylor
 CRETACEOUS: Phillips, D. 1982a
 EOCENE: Phillips, D. 1982a
 MIOCENE: Phillips, D. 1982a
- Rostroconchia:**
- ORDOVICIAN: Benton
 SILURIAN: Parkes and Sleeman
 CARBONIFEROUS: Parkes and Sleeman
- Scaphopoda:**
- CARBONIFEROUS: Campbell; Rolfe *et al.*
 PERMIAN: Nudds 1992a; Riley
 QUATERNARY: Pyrah 1978
- MYRIAPODA:**
- See ARTHROPODA [Myriapoda]
- NAUTILOIDEA:**
- See MOLLUSCA [Nautiloidea]
- OCTOCORALLIA:**
- See CNIDARIA [Anthozoa: Octocorallia]
- OPHIUROIDEA:**
- See ECHINODERMATA [Ophiuroidea]
- OSTRACODA:**
- See ARTHROPODA [Crustacea: Ostracoda]
- PARABLASTOIDEA**
- See ECHINODERMATA [Parablastoidea]
- PELECYPODA:**
- See MOLLUSCA [Bivalvia]
- PHYLLOCARIDA:**
- See ARTHROPODA [Crustacea: Phyllocarida]
- POLYPLACOPHORA:**
- See MOLLUSCA [Amphineura]
- PORIFERA:**
- [Undifferentiated]:**
- AGE NOT INDICATED: Benton and Trewin
 CAMBRIAN: Nudds 1982a; Owens and Bassett
 ORDOVICIAN: Owens and Bassett; Rolfe *et al.*; Tunnicliff
 SILURIAN: Benton; Rolfe *et al.*; Tunnicliff
 CARBONIFEROUS: Campbell; Nudds 1982a, 1988; Rolfe *et al.*
 PERMIAN: Pattison
 JURASSIC: Pyrah 1976; Torrens and Taylor
 CRETACEOUS: Loeffler and Crane; Nudds 1982a; Pyrah 1976
- Archaeocyatha:**
- CAMBRIAN: Nudds 1982a
- Stromatoporoidea:**
- ORDOVICIAN: Benton; Tunnicliff
 SILURIAN: Benton; Loeffler and Crane
 DEVONIAN: Benton
 JURASSIC: Loeffler and Crane
- PROBLEMATICA:** [See also VERTEBRATA PROBLEMATICA and PLANTAE PROBLEMATICA]
- Undifferentiated:**
- PRECAMBRIAN: Benton
 CAMBRIAN: Nudds 1988
 ORDOVICIAN: Morris 1980; Nudds 1983
 SILURIAN: Morris 1980; Nudds 1983, 1988; Owens and Bassett; Parkes and Sleeman
 CARBONIFEROUS: Nudds 1983
- ?ANNELIDA:**
- ORDOVICIAN: Benton
 SILURIAN: Benton
 DEVONIAN: Benton
- MACHAERIDIA:**
- ORDOVICIAN: Benton
- PERFORATIONS MADE BY BIVALVES:**
- PERMIAN: Pattison
- PHYLUM UNCERTAIN:**
- AGE NOT INDICATED: Benton and Trewin
- SMALL CONOIDAL SHELLS OF UNCERTAIN AFFINITY:**
- ORDOVICIAN: Benton
 DEVONIAN: Benton

PROTOZOA:**Foraminiferida:**

- AGE NOT INDICATED: Murray and Taplin
 ORDOVICIAN: Benton
 CARBONIFEROUS: Adams *et al.*; Campbell; Nudds 1982a, 1988; Rolfe *et al.*
 PERMIAN: Rolfe *et al.*
 TRIASSIC: Adams *et al.*
 JURASSIC: Adams; Owens and Bassett; Rolfe *et al.*
 CRETACEOUS: Adams *et al.*; Benton
 CENOZOIC: Adams *et al.*
 EOCENE: Adams *et al.*; Benton; Rolfe *et al.*
 MIOCENE: Adams *et al.*; Rolfe *et al.*
 PLIOCENE: Rolfe *et al.*
 HOLOCENE: Adams; Adams *et al.*; Benton; Joysey

Radiolaria:

- JURASSIC: Rolfe *et al.*

RADIOLARIA:

See **PROTOZOA [Radiolaria]**

ROSTROCONCHIA:

See **MOLLUSCA [Rostroconchia]**

RUGOSA:

See **CNIDARIA [Anthozoa: Rugosa]**

SCAPHOPODA:

See **MOLLUSCA [Scaphopoda]**

SCLERACTINIA:

See **CNIDARIA [Anthozoa: Scleractinia]**

SCOLECODONTS:

See **ANNELIDA [Scolecodonts]**

SCYPHOZOA:

See **CNIDARIA [Scyphozoa]**

STELLEROIDEA:

See **ECHINODERMATA [Stelleroidea]**

STROMATOPOROIDEA:

See **PORIFERA [Stromatoporoidea]**

SYMBIOSIS:**Annelida/Brachiopoda:**

SILURIAN: Nudds 1983

Mollusca [Bivalvia]/Brachiopoda:

SILURIAN: Nudds 1983

Mollusca [Nautiloidea]/Annelida:

SILURIAN: Nudds 1983

Mollusca [Nautiloidea]/Brachiopoda:

SILURIAN: Nudds 1983, 1988

SYNXIPHOSURA:

See **ARTHROPODA [Synxiphosura]**

TABULATA:

See **CNIDARIA [Anthozoa: Tabulata]**

TENTACULITIDA:

See **CRICOCONARIDA [Tentaculitida]**

TRACE FOSSILS:

See **ICHNOFOSSILS**

TRILOBITA:

See **ARTHROPODA [Trilobita]**

TRILOBITOMORPHA:

See **ARTHROPODA [Trilobitomorpha]**

UNKNOWN:

See **PROBLEMATICA**

XIPHOSURA:

See **ARTHROPODA [Xiphosura]**

ZOANTHARIA:

See **CNIDARIA [Anthozoa: Zoantharia]**

VERTEBRATA**UNDIFFERENTIATED:**

JURASSIC: Torrens 1978b

AMPHIBIA:

CARBONIFEROUS: Boyd 1986; Boyd and Turner; Nudds 1983, 1992a; Rolfe *et al.*; Wyse Jackson and Monaghan

AVES:

CRETACEOUS: Pyrah 1979a
 QUATERNARY: Pyrah 1979a

CONODONTA:

ORDOVICIAN: Nudds 1988; Owens and Bassett
 SILURIAN: Owens and Bassett
 CARBONIFEROUS: Nudds 1983, 1988; Owens and Bassett; Rolfe *et al.*

MAMMALIA:

AGE NOT INDICATED: Rolfe *et al.*
 TRIASSIC: Duffin 1978
 JURASSIC: Pyrah 1979a
 CENOZOIC: Pyrah 1979a
 PALEOGENE: Radley

MIO-PLIOCENE: Rolfe *et al.*

QUATERNARY: Campbell; Pyrah 1979a; Rolfe *et al.*

PLEISTOCENE: Boyd 1983; Nudds 1983, 1988, 1992a; Radley; Rolfe *et al.*

PISCES:

AGE NOT INDICATED: Andrews
 SILURIAN: Campbell; Rolfe *et al.*; Smith 1989
 OLD RED SANDSTONE: Campbell; Nudds 1992a; Paton 1976, 1981; Pyrah 1979a; Rolfe *et al.*; Smith 1989, 1996
 DEVONIAN: Butler; Nudds 1983, 1992a; Owens and Bassett; Paton 1981; Rolfe *et al.*
 CARBONIFEROUS: Campbell; Nudds 1992a; Owens and Bassett; Parkes and Sleeman; Paton 1976; Pyrah 1979a; Rolfe *et al.*; Wyse Jackson and Monaghan
 PERMIAN: Paton 1976; Pyrah 1979a
 TRIASSIC: Duffin 1978; Nudds 1992a; Owens and Bassett

JURASSIC: Boyd 1983; Cross 1975*a*, 1975*b*; Duffin 1978; Powell and Edmonds; Pyrah 1979*a*; Torrens 1978*b*

CRETACEOUS: Pyrah 1979*a*

CENOZOIC: Pyrah 1979*a*

EOCENE: Nudds 1983

PLIOCENE: Rolfe *et al.*

PLEISTOCENE: Rolfe *et al.*

HOLOCENE: Nudds 1992*a*

PROBLEMATICA: [See also **INVERTEBRATA PROBLEMATICA** and **PLANTAE PROBLEMATICA**]

AGE NOT INDICATED: Benton and Trewin

REPTILIA:

AGE NOT INDICATED: Benton and Trewin

DEVONIAN: Parkes and Sleeman

PERMIAN: Rolfe *et al.*

TRIASSIC: Benton and Trewin; Duffin 1978; Nudds 1992*a*; Rolfe *et al.*

JURASSIC: Boyd 1983; Cross 1975*a*, 1975*b*; Duffin 1978, 1979; Nudds 1983, 1992*a*; Owens and Bassett; Powell and Edmonds; Pyrah 1979*a*; Rolfe *et al.*; Torrens 1978*b*

CRETACEOUS: Crane and Getty; Pyrah 1979*a*; Radley; Rolfe *et al.*

PALEOGENE: Radley

PLIOCENE: Rolfe *et al.*

HOLOCENE: Rolfe *et al.*

VERTEBRATE FOOTPRINTS:

CARBONIFEROUS: Sarjeant

PERMIAN: Rolfe *et al.*; Sarjeant

TRIASSIC: Sarjeant

JURASSIC: Pyrah 1979*a*; Rolfe *et al.*; Sarjeant

CRETACEOUS: Radley; Sarjeant

PLANTAE

UNDIFFERENTIATED:

SILURIAN: Nudds 1989

OLD RED SANDSTONE: Nudds 1984, 1992*a*

DEVONIAN: Crane 1980*b*; Nudds 1984; Parkes and Sleeman

CARBONIFEROUS: Crane 1980*b*; Eagar and Preece; Hancock *et al.*; Newman and Chatt-Ramsey; Nudds 1984, 1989, 1992*a*; Parkes and Sleeman; Phillips, P. W.; Pyrah 1979*a*; Strachan

PERMIAN: Nudds 1992*a*; Pattison

TRIASSIC: Crane 1980*b*; Phillips, P. W.

JURASSIC: Crane 1980*b*; Newman and Chatt-Ramsey; Nudds 1992*a*; Powell and Edmonds; Pyrah 1979*a*; Torrens 1978*b*

CRETACEOUS: Crane 1980*b*; Hancock *et al.*

CENOZOIC: Hancock *et al.*

PALEOGENE: Parkes and Sleeman

OLIGOCENE: Crane and Getty

ACRITARCHA:

CAMBRIAN: Nudds 1984

ORDOVICIAN: Nudds 1984

SILURIAN: Nudds 1984, 1989

CARBONIFEROUS: Nudds 1984

ALGAE: [See also **PLANTAE PROBLEMATICA**]

AGE NOT INDICATED: Benton and Trewin

CAMBRIAN: Crawley

ORDOVICIAN: Benton; Crawley

SILURIAN: Crawley; Owens and Bassett; Smith 1989

OLD RED SANDSTONE: Crawley

DEVONIAN: Crawley

CARBONIFEROUS: Campbell; Crawley; Owens and Bassett; Rolfe *et al.*

PERMIAN: Crawley

TRIASSIC: Crawley

JURASSIC: Crawley

CRETACEOUS: Crawley

PALEOCENE: Crawley

EOCENE: Crawley

OLIGOCENE: Crawley

MIOCENE: Crawley

PLIOCENE: Crawley

PLEISTOCENE: Crawley

HOLOCENE: Crawley

ANGIOSPERMAE:

See **TRACHEOPHYTA** [**Angiospermae**]

DIATOMS: (**BACILLARIOPHYTA**)

EOCENE: Williams

OLIGOCENE: Williams

HOLOCENE: Williams

MEGASPORES:

DEVONIAN: Parkes and Sleeman

MIOSPORES:

CAMBRIAN: Nudds 1984

ORDOVICIAN: Nudds 1984

SILURIAN: Nudds 1984, 1989

DEVONIAN: Nudds 1984, 1989; Parkes and Sleeman

CARBONIFEROUS: Nudds 1984, 1989; Parkes and Sleeman

JURASSIC: Parkes and Sleeman

PROBLEMATICA: [See also **INVERTEBRATA PROBLEMATICA** and **VERTEBRATA PROBLEMATICA**]

SILURIAN: Owens and Bassett; Parkes and Sleeman

DEVONIAN: Owens and Bassett

?Algae

AGE NOT INDICATED: Rolfe *et al.*

PTERIDOPHYTA:

DEVONIAN: Rolfe *et al.*

CARBONIFEROUS: Campbell; Rolfe *et al.*; Wyse Jackson and Sleeman

TRACHEOPHYTA:**Undifferentiated:**

- SILURIAN: Owens and Bassett
 DEVONIAN: Owens and Bassett
 CARBONIFEROUS: Owens and Bassett
 PERMIAN: Owens and Bassett

- TRIASSIC: Owens and Bassett
 CRETACEOUS/TERTIARY: Owens and Bassett
Angiospermae:
 CENOZOIC: Rolfe *et al.*
 ?PALEOCENE: Campbell

STRATIGRAPHICAL INDEX

- Age not indicated:** *See* ALGAE, ARTHROPODA [Undifferentiated] [Crustacea: Undifferentiated] [Crustacea: Ostracoda] [Trilobita], BRACHIOPODA, BRYOZOA, CNIDARIA [Undifferentiated] [Anthozoa: Heterocorallia] [Anthozoa: Octocorallia] [Anthozoa: Rugosa] [Anthozoa: Scleractinia] [Anthozoa: Tabulata], ECHINODERMATA [Undifferentiated], ICHNOFOSSILS, GRAPTOLITHINA [Undifferentiated], MAMMALIA, MOLLUSCA [Bivalvia] [Cephalopoda: Undifferentiated] [Gastropoda], PISCES, PLANTAE [Problematica], PORIFERA [Undifferentiated], PROBLEMATICA, PROTOZOA [Foraminiferida], REPTILIA, VERTEBRATA [Problematica]
- Precambrian:** *See* CNIDARIA [Undifferentiated] [Cyclozoa], ICHNOFOSSILS, PROBLEMATICA [Undifferentiated]
- Lower Palaeozoic:** *See* BRACHIOPODA, CNIDARIA [Scyphozoa]
- Cambrian:** *See* ACRITARCHA, ALGAE, ARTHROPODA [Crustacea: Malacostraca] [Eurypterida] [Trilobita], BRACHIOPODA, CALCICHORDATA, ICHNOFOSSILS, MIOSPORES, PORIFERA [Undifferentiated] [Archaeocyatha], PROBLEMATICA
- Tremadoc:** *See* ARTHROPODA [Trilobita], BRACHIOPODA, ECHINODERMATA [Cystoidea], GRAPTOLITHINA [Undifferentiated], MOLLUSCA [Gastropoda]
- Ordovician:** *See* ACRITARCHA, ALGAE, ANNELIDA [Undifferentiated] [Scolecodonts], ARTHROPODA [Undifferentiated] [Crustacea: Malacostraca] [Crustacea: Ostracoda] [Trilobita] [Trilobitomorpha], BRACHIOPODA, BRYOZOA, CALCICHORDATA, CNIDARIA [Undifferentiated] [Anthozoa: Undifferentiated] [Anthozoa: Rugosa] [Anthozoa: Tabulata] [Hydrozoa] [Scyphozoa], CONODONTA, ECHINODERMATA [Undifferentiated] [Asteroidea] [Asterozoa: Undifferentiated] [Crinoidea] [Cystoidea] [Echinoidea] [Ophiuroidea] [Parablastoidea] GRAPTOLITHINA [Undifferentiated] [Dendroidea] [Graptoloidea], HYOLITHA, ICHNOFOSSILS, MIOSPORES, MOLLUSCA [Bivalvia] [Cephalopoda: Undifferentiated] [Gastropoda] [Nautiloidea] [Rostroconchia], PROBLEMATICA, PROTOZOA, PORIFERA [Undifferentiated] [Stromatoporoidea]
- Silurian:** *See* ACRITARCHA, ALGAE, ANNELIDA [Undifferentiated], ARTHROPODA [Undifferentiated] [Chelicerata: Undifferentiated] [Chelicerata: Arachnida] [Crustacea: Undifferentiated] [Crustacea: Cirripedia] [Crustacea: Malacostraca] [Crustacea: Ostracoda] [Crustacea: Phyllocarida] [Eurypterida] [Synxiphosura] [Trilobita] [Trilobitomorpha] [Xiphosura], BRACHIOPODA, BRYOZOA, CHITINOZOA, CNIDARIA [Undifferentiated] [Anthozoa: Undifferentiated] [Anthozoa: Rugosa] [Anthozoa: Tabulata] [Anthozoa: Zoantharia] [Scyphozoa], CONODONTA, CRICOCONARIDA [Tentaculitida], ECHINODERMATA [Undifferentiated] [Asteroidea] [Asterozoa: Undifferentiated] [Crinoidea] [Echinoidea] [Ophiuroidea], GRAPTOLITHINA [Undifferentiated] [Dendroidea] [Graptoloidea], ICHNOFOSSILS, MIOSPORES, MOLLUSCA [Bivalvia] [Cephalopoda: Undifferentiated] [Gastropoda] [Nautiloidea] [Rostroconchia], PISCES, PLANTAE [Undifferentiated] [Problematica] [Tracheophyta], PORIFERA [Undifferentiated] [Stromatoporoidea], PROBLEMATICA, SYMBIOSIS, TRACHEOPHYTA [Undifferentiated]
- Old Red Sandstone:** *See* ALGAE, ARTHROPODA [Chelicerata: Arachnida] [Crustacea: Branchiopoda] [Eurypterida] [Myriapoda], BRACHIOPODA, ICHNOFOSSILS, MOLLUSCA [Bivalvia] [Cephalopoda: Undifferentiated] [Gastropoda], PISCES, PLANTAE [Undifferentiated]
- Devonian:** *See* ALGAE, ANNELIDA [Undifferentiated], ARTHROPODA [Undifferentiated] [Chelicerata: Arachnida] [Crustacea: Branchiopoda] [Crustacea: Malacostraca] [Crustacea: Ostracoda] [Eurypterida] [Trilobita] [Trilobitomorpha], BRACHIOPODA, BRYOZOA, CNIDARIA [Undifferentiated] [Anthozoa: Rugosa] [Anthozoa: Tabulata], CRICOCONARIDA [Tentaculitida], ECHINODERMATA [Asteroidea] [Blastoidea] [Crinoidea] [Ophiuroidea], MIOSPORES, MOLLUSCA [Ammonoidea] [Bivalvia] [Cephalopoda: Undifferentiated] [Gastropoda] [Nautiloidea], PISCES, PLANTAE [Undifferentiated] [Megaspores] [Miospores] [Problematica] [Tracheophyta], PORIFERA [Stromatoporoidea], PROB-

- LEMATICA, PTERIDOPHYTA, REPTILIA, TRACHEOPHYTA [Undifferentiated]
- Carboniferous:** *See* ACRITARCHA, ALGAE, AMPHIBIA, ANNELIDA [Undifferentiated] [Scolodonta], ARTHROPODA [Undifferentiated] [Chelicerata: Undifferentiated] [Chelicerata: Arachnida] [Chelicerata: Merostomata] [Crustacea: Undifferentiated] [Crustacea: Branchiopoda] [Crustacea: Cycloidea] [Crustacea: Malacostraca] [Crustacea: Ostracoda] [Crustacea: Phyllocarida] [Eurypterida] [Insecta] [Myriapoda] [Trilobita] [Xiphosura], BRACHIOPODA, BRYOZOA, CNIDARIA [Undifferentiated] [Anthozoa: Undifferentiated] [Anthozoa: Heterocorallia] [Anthozoa: Rugosa] [Anthozoa: Tabulata] [Anthozoa: Zoantharia] [Scyphozoa], CONODONTA, ECHINODERMATA [Undifferentiated] [Asteroidea] [Asterozoa: Undifferentiated] [Blastoidea] [Crinoidea] [Echinoidea] [Ophiuroidea], ICHNOFOSSILS, MIOSPORES, MOLLUSCA [Ammonoidea] [Amphineura] [Bivalvia] [Cephalopoda: Undifferentiated] [Gastropoda] [Nautiloidea] [Rostroconchia] [Scaphopoda], PISCES, PLANTAE [Undifferentiated] [Miospores], PORIFERA [Undifferentiated], PROBLEMATICA, PROTOZOA [Foraminiferida], PTERIDOPHYTA, TRACHEOPHYTA [Undifferentiated], VERTEBRATE FOOTPRINTS
- Permo-Carboniferous:** *See* ARTHROPODA [Crustacea: Branchiopoda], BRYOZOA
- Permian:** *See* ALGAE, ARTHROPODA [Crustacea: Branchiopoda] [Crustacea: Malacostraca] [Trilobita] [Xiphosura], BRACHIOPODA, BRYOZOA, CNIDARIA [Anthozoa: Undifferentiated], ECHINODERMATA [Undifferentiated] [Crinoidea] [Echinoidea], ICHNOFOSSILS, MOLLUSCA [Ammonoidea] [Amphineura] [Bivalvia] [Cephalopoda: Undifferentiated] [Coleoidea] [Gastropoda] [Nautiloidea] [Scaphopoda], PISCES, PLANTAE [Undifferentiated], PORIFERA [Undifferentiated], PROBLEMATICA, PROTOZOA [Foraminiferida], REPTILIA, TRACHEOPHYTA [Undifferentiated], VERTEBRATE FOOTPRINTS
- Permo-Triassic:** *See* ARTHROPODA [Crustacea: Branchiopoda]
- Triassic:** *See* ALGAE, ARTHROPODA [Undifferentiated] [Crustacea: Undifferentiated] [Crustacea: Branchiopoda] [Crustacea: Malacostraca] [Insecta], BRACHIOPODA, CNIDARIA [Undifferentiated] [Hydrozoa], ECHINODERMATA [Asteroidea] [Echinoidea] [Ophiuroidea], ICHNOFOSSILS, MAMMALIA, MOLLUSCA [Ammonoidea] [Bivalvia] [Cephalopoda: Undifferentiated] [Coleoidea] [Gastropoda] [Nautiloidea], PISCES, PLANTAE [Undifferentiated], PROTOZOA [Foraminiferida], TRACHEOPHYTA [Undifferentiated], REPTILIA, VERTEBRATE FOOTPRINTS
- Jurassic:** *See* ALGAE, ANNELIDA [Undifferentiated], ARTHROPODA [Crustacea: Undifferentiated] [Crustacea: Branchiopoda] [Crustacea: Cirripedia] [Crustacea: Malacostraca] [Crustacea: Ostracoda], BRACHIOPODA, BRYOZOA, CNIDARIA [Undifferentiated] [Anthozoa: Undifferentiated] [Anthozoa: Zoantharia], ECHINODERMATA [Undifferentiated] [Asteroidea] [Asterozoa: Undifferentiated] [Crinoidea] [Echinoidea] [Holothuroidea] [Ophiuroidea] [Stelleroidea], MAMMALIA, MOLLUSCA [Ammonoidea] [Belemnoidea] [Bivalvia] [Cephalopoda: Undifferentiated] [Coleoidea] [Gastropoda] [Nautiloidea], PISCES, PLANTAE [Undifferentiated] [Miospores], PORIFERA [Undifferentiated] [Stromatoporoidea], PROTOZOA [Foraminiferida], PROTOZOA [Radiolaria], REPTILIA, VERTEBRATA [Undifferentiated], VERTEBRATE FOOTPRINTS
- Jurassic/Lower Cretaceous:** *See* ARTHROPODA [Crustacea: Branchiopoda]
- Cretaceous:** *See* ALGAE, ARTHROPODA [Undifferentiated] [Crustacea: Undifferentiated] [Crustacea: Branchiopoda] [Crustacea: Cirripedia] [Crustacea: Malacostraca] [Crustacea: Ostracoda], [Insecta] [Xiphosura], AVES, BRACHIOPODA, CNIDARIA [Undifferentiated], [ECHINODERMATA [Undifferentiated] [Asteroidea] [Echinoidea] [Ophiuroidea], MOLLUSCA [Ammonoidea] [Bivalvia] [Cephalopoda: Undifferentiated] [Coleoidea] [Gastropoda] [Nautiloidea], PISCES, PLANTAE [Undifferentiated], PORIFERA [Undifferentiated], PROTOZOA [Foraminiferida], REPTILIA, VERTEBRATE FOOTPRINTS
- Cretaceous/Tertiary:** *See* TRACHEOPHYTA [Undifferentiated]
- Cenozoic:** *See* ANNELIDA [Undifferentiated], ARTHROPODA [Crustacea: Undifferentiated] [Crustacea: Cirripedia] [Crustacea: Ostracoda], BRACHIOPODA, CNIDARIA [Undifferentiated], ECHINODERMATA [Undifferentiated] [Echinoidea], MAMMALIA, MOLLUSCA [Bivalvia] [Gastropoda], PISCES, PLANTAE [Undifferentiated], PROTOZOA [Foraminiferida], TRACHEOPHYTA [Angiospermae]
- Paleogene:** *See* ARTHROPODA [Crustacea: Ostracoda], MAMMALIA, MOLLUSCA [Gastropoda], PLANTAE [Undifferentiated], REPTILIA
- Paleocene:** *See* ALGAE, ARTHROPODA [Crustacea: Malacostraca], ECHINODERMATA [Asteroidea] [Echinoidea], TRACHEOPHYTA [Angiospermae]
- Eocene:** *See* ALGAE, ARTHROPODA [Undifferentiated] [Chelicerata: Arachnida] [Crustacea: Cirripedia] [Crustacea: Malacostraca], CNIDARIA [Undifferentiated], DIATOMS, ECHINODERM-

- ATA [Undifferentiated] [Asteroidea] [Echinoidea] [Ophiuroidea], MOLLUSCA [Bivalvia] [Cephalopoda: Undifferentiated] [Coleoidea] [Gastropoda] [Nautiloidea], PISCES, PROTOZOA [Foraminiferida]
- Oligocene:** *See* ALGAE, ARTHROPODA [Chelicerata: Arachnida] [Crustacea: Branchiopoda] [Crustacea: Malacostraca], CNIDARIA [Undifferentiated], DIATOMS, ECHINODERMATA [Echinoidea], MOLLUSCA [Bivalvia] [Gastropoda], PLANTAE [Undifferentiated]
- Oligocene-Miocene:** *See* ECHINODERMATA [Echinoidea]
- Neogene:** ARTHROPODA [Crustacea: Ostracoda]
- Miocene:** *See* ALGAE, ARTHROPODA [Chelicerata: Arachnida] [Crustacea: Cirripedia] [Crustacea: Malacostraca] [Crustacea: Ostracoda], BRACHIOPODA, BRYOZOA, CNIDARIA [Undifferentiated], ECHINODERMATA [Undifferentiated] [Echinoidea], MOLLUSCA [Bivalvia] [Cephalopoda: Undifferentiated] [Gastropoda] [Nautiloidea], PROTOZOA [Foraminiferida]
- Mio-Pliocene:** *See* MAMMALIA
- Pliocene:** *See* ALGAE, ARTHROPODA [Undifferentiated] [Crustacea: Cirripedia] [Crustacea: Malacostraca], BRYOZOA, CNIDARIA [Undifferentiated] [Hydrozoa], ECHINODERMATA [Undifferentiated] [Echinoidea], MOLLUSCA [Undifferentiated] [Bivalvia] [Gastropoda], PISCES, PROTOZOA [Foraminiferida], REPTILIA
- Quaternary:** *See* ARTHROPODA [Undifferentiated], AVES, BRYOZOA, CNIDARIA [Undifferentiated], ECHINODERMATA [Undifferentiated], MAMMALIA, MOLLUSCA [Amphineura] [Bivalvia] [Gastropoda] [Scaphopoda]
- Pleistocene:** *See* ALGAE, ARTHROPODA [Undifferentiated] [Chelicerata: Arachnida] [Crustacea: Cirripedia] [Crustacea: Malacostraca] [Crustacea: Ostracoda] [Myriapoda], BRYOZOA, CNIDARIA [Undifferentiated], ECHINODERMATA [Undifferentiated] [Echinoidea], MAMMALIA, MOLLUSCA [Bivalvia] [Gastropoda], PISCES
- Holocene:** *See* ALGAE, ANNELIDA [Undifferentiated], ARTHROPODA [Crustacea: Undifferentiated] [Crustacea: Cirripedia] [Crustacea: Ostracoda], BRACHIOPODA, BRYOZOA, CNIDARIA [Anthozoa: Octocorallia] [Anthozoa: Scleractinia] [Hydrozoa], DIATOMS, ECHINODERMATA [Undifferentiated], MOLLUSCA [Bivalvia], PISCES, PROTOZOA [Foraminiferida], REPTILIA

MUSEUMS INDEX

- ABERDEEN UNIVERSITY, GEOLOGY DEPARTMENT: Benton; Benton and Trewin
- ABERYSTWYTH, UNIVERSITY COLLEGE OF WALES: Cocks
- ABINGDON MUSEUM: [*All type specimens transferred to University Museum, Oxford*] Knell
- BANGOR, UNIVERSITY COLLEGE MUSEUM: Morris 1988
- BARNSTAPLE: *See* MUSEUM OF NORTH DEVON, BARNSTAPLE
- BATH ROYAL LITERARY AND SCIENTIFIC INSTITUTION [BATH MUSEUM]: Crane 1980*b*; Duffin 1978, 1979
- BELFAST: *See* ULSTER MUSEUM, BELFAST
- BIRMINGHAM UNIVERSITY LAPWORTH MUSEUM: Cocks; Morris 1988; Smith 1989; Strachan
- BOLTON MUSEUM AND ART GALLERY: Hancock *et al.*
- BRISTOL CITY MUSEUM AND ART GALLERY: Crane 1980*a*, 1980*b*; Loeffler and Crane; Morris 1988; Smith 1989; Torrens and Taylor
- BRISTOL UNIVERSITY GEOLOGY DEPARTMENT MUSEUM: Loeffler and Crane; Morris 1988
- BRITISH GEOLOGICAL SURVEY, EDINBURGH: [See also note, p. 615] Benton; Clark; Cocks; Morris 1988
- BRITISH GEOLOGICAL SURVEY, LONDON: [*Formerly also Geological Museum of the British Geological Survey, London; also Geological Museum, Institute of Geological Sciences, London; also Geological Survey Museum, London. All material now transferred to British Geological Survey, Keyworth, Nottingham (see note, p. 615)*] Andrews; Benton; Clark; Cross 1975*a*, 1975*b*; Hancock *et al.*; Mitchell; Sarjeant; Tunnicliff
- BRITISH GEOLOGICAL SURVEY, KEYWORTH, NOTTINGHAM: [See also above and note p. 615] Cocks; Morris 1988; Smith 1989, 1996
- BRITISH MUSEUM (NATURAL HISTORY): *See* NATURAL HISTORY MUSEUM, LONDON
- CAMBRIDGE: *See* SEDGWICK MUSEUM, and UNIVERSITY OF CAMBRIDGE, ZOOLOGICAL MUSEUM
- CARDIFF: *See* NATIONAL MUSEUM OF WALES
- CARLISLE MUSEUM: *See* TULLIE HOUSE MUSEUM AND ART GALLERY, CARLISLE
- CASTLE MUSEUM, NORWICH: Sarjeant
- CENTRAL MUSEUM AND ART GALLERY, NORTHAMPTON: Smith 1989, 1996
- CHELTENHAM ART GALLERY AND MUSEUM: Torrens 1978*a*; Torrens and Taylor
- CHELTENHAM COLLEGE MUSEUM [*Specimens transferred to Bristol City Museum, Natural History*]

- Museum, and Portsmouth Polytechnic (now University of Portsmouth)*]: Torrens and Taylor
- CHESTER: See GROSVENOR MUSEUM, CHESTER
- CLIFFE CASTLE MUSEUM, KEIGHLEY: Cocks
- DICK INSTITUTE, KILMARNOCK: Benton
- DOUGLAS, ISLE OF MAN: See MANX MUSEUM
- DUBLIN: See TRINITY COLLEGE, DUBLIN and NATIONAL MUSEUM OF IRELAND, DUBLIN and GEOLOGICAL SURVEY OF IRELAND, DUBLIN
- DUDLEY ART GALLERY AND MUSEUM [*including specimens formerly housed in Dudley Central Library*]: Chandler and Hannah; Morris 1988; Smith 1989; Torrens 1979
- EDINBURGH: See BRITISH GEOLOGICAL SURVEY, EDINBURGH and GRANT INSTITUTE, EDINBURGH and NATIONAL MUSEUMS OF SCOTLAND, EDINBURGH and ROYAL SCOTTISH MUSEUM, EDINBURGH
- ELGIN MUSEUM: Andrews
- EXETER: See ROYAL ALBERT MEMORIAL MUSEUM, EXETER
- FREE PUBLIC MUSEUM, LIVERPOOL: See NATIONAL MUSEUMS AND GALLERIES ON MERSEYSIDE
- GALWAY, UNIVERSITY COLLEGE: See JAMES MITCHELL MUSEUM, UNIVERSITY COLLEGE GALWAY
- GEOLOGICAL MUSEUM, INSTITUTE OF GEOLOGICAL SCIENCES, LONDON: See BRITISH GEOLOGICAL SURVEY, LONDON
- GEOLOGICAL SOCIETY, LONDON: See under BRITISH GEOLOGICAL SURVEY, KEYWORD where the collection is housed.
- GEOLOGICAL SURVEY MUSEUM, LONDON: See BRITISH GEOLOGICAL SURVEY, LONDON
- GEOLOGICAL SURVEY OF IRELAND, DUBLIN: Morris 1988; Parkes and Sleeman; Wyse Jackson and Sleeman
- GEOLOGICAL SURVEY OF SCOTLAND, EDINBURGH: See BRITISH GEOLOGICAL SURVEY, EDINBURGH
- GLASGOW: See HUNTERIAN MUSEUM, UNIVERSITY OF GLASGOW
- GLASGOW ART GALLERY AND MUSEUM, KELVINGROVE [*formerly Kelvingrove Museum*]: Andrews; Benton; Campbell; Rolfe *et al.*
- GLOUCESTER CITY MUSEUM AND ART GALLERY: Torrens 1978a
- GRANT INSTITUTE, EDINBURGH: Morris 1988
- GROSVENOR MUSEUM, CHESTER: Sarjeant
- HANCOCK MUSEUM, NEWCASTLE UPON TYNE: Boyd 1986; Boyd and Turner; Newman and Chatt-Ramsey
- HULL UNIVERSITY, GEOLOGY DEPARTMENT: Hodgkinson; Morris 1988
- HUNTERIAN MUSEUM, UNIVERSITY OF GLASGOW: Benton; Cocks; Morris 1988; Rolfe *et al.*; Sarjeant
- ISLE OF WIGHT: See MUSEUM OF ISLE OF WIGHT GEOLOGY
- JAMES MITCHELL MUSEUM, UNIVERSITY COLLEGE GALWAY: Pattison
- KEIGHLEY: See CLIFFE CASTLE MUSEUM, KEIGHLEY
- KESWICK MUSEUM AND ART GALLERY: Morris 1988
- KILMARNOCK: See DICK INSTITUTE
- KINGSTON UPON HULL CITY MUSEUMS: Boyd 1983
- LANCASHIRE MINING MUSEUM, SALFORD [*formerly Salford Mining Museum*]: Sarjeant
- LAUNCESTON: See SOUTHGATE MUSEUM, LAUNCESTON
- LEICESTERSHIRE MUSEUM, ART GALLERIES AND RECORDS SERVICE: Sarjeant
- LINNEAN SOCIETY COLLECTION, LONDON: Cocks
- LIVERPOOL: See NATIONAL MUSEUMS AND GALLERIES ON MERSEYSIDE
- LUDLOW MUSEUM: Morris 1988
- MANCHESTER MUSEUM: Eagar and Preece; Hancock *et al.*; Morris 1988; Newman and Chatt-Ramsey; Nudds 1992a, 1992b; Sarjeant
- MANX MUSEUM: Garrad
- MIDLAND GEOLOGICAL SOCIETY MUSEUM: Cocks
- MUSEUM OF IRISH INDUSTRY [*forerunner of National Museum of Ireland, Dublin; and also held collections of Geological Survey of Ireland, Dublin*]: Morris 1988
- MUSEUM OF ISLE OF WIGHT GEOLOGY: Radley
- MUSEUM OF NORTH DEVON, BARNSTAPLE [*formerly North Devon Athenaeum, Barnstaple*]: Butler; Morris 1988
- NATIONAL MUSEUM OF IRELAND, DUBLIN: Cocks; Morris 1988; Wyse Jackson and Monaghan
- NATIONAL MUSEUM OF WALES, CARDIFF: Cocks; Morris 1988; Owens and Bassett; Sarjeant; Smith 1989, 1996
- NATIONAL MUSEUMS AND GALLERIES ON MERSEYSIDE [*incorporating Liverpool Museum*]: Phillips, P. W.
- NATIONAL MUSEUMS OF SCOTLAND, EDINBURGH [*See also ROYAL SCOTTISH MUSEUM, EDINBURGH*]: Smith 1989; Sutherland
- NATURAL HISTORY MUSEUM, LONDON: Adams; Adams *et al.*; Andrews; Benton; Cocks; Crane and Getty; Crawley; Duffin 1979; Ensom;

- Hancock *et al.*; Hodgkinson; Joysey; Lewis 1986, 1993; Morris 1980, 1988; Morris and Fortey; Newman and Chatt-Ramsey; Phillips, D. 1977, 1982a, 1982b; Pyrah 1976, 1978; Smith 1989, 1996; Torrens 1978a, 1978b, 1983; Torrens and Taylor; Tripp and Howells; Williams
- NEWCASTLE UPON TYNE: *See* HANCOCK MUSEUM, NEWCASTLE UPON TYNE
- NORTH DEVON ATHENAEUM, BARNSTAPLE: *See* MUSEUM OF NORTH DEVON, BARNSTAPLE
- NORTHAMPTON: *See* CENTRAL MUSEUM AND ART GALLERY, NORTHAMPTON
- NORWICH: *See* CASTLE MUSEUM, NORWICH
- NOTTINGHAM UNIVERSITY GEOLOGY DEPARTMENT: Sarjeant
- OXFORD: *See* UNIVERSITY MUSEUM, OXFORD
- PETERBOROUGH CITY MUSEUM AND ART GALLERY: Cross 1975a, 1975b
- PORTSMOUTH: *See* UNIVERSITY OF PORTSMOUTH
- ROCHDALE MUSEUM: Steward and Torrens
- ROWLEY'S HOUSE MUSEUM, SHREWSBURY: Sarjeant
- ROYAL ALBERT MEMORIAL MUSEUM, EXETER: Murray and Taplin
- ROYAL SCOTTISH MUSEUM, EDINBURGH [*See also* NATIONAL MUSEUMS OF SCOTLAND, EDINBURGH]: Andrews; Baird; Benton; Morris 1988; Paton 1976, 1981
- SALFORD MUSEUM OF MINING: *See* LANCA-SHIRE MINING MUSEUM, SALFORD
- SCARBOROUGH: *See* WOOD END MUSEUM OF NATURAL HISTORY, SCARBOROUGH
- SEDGWICK MUSEUM, CAMBRIDGE: Benton; Cocks; Crane and Getty; Morris 1988; Newman and Chatt-Ramsey; Smith 1989
- SHEFFIELD CITY MUSEUM: Morris 1988; Riley
- SHERBORNE SCHOOL MUSEUM [*All type specimens transferred to The Natural History Museum, London*]: Torrens 1978b
- SHREWSBURY: *See* ROWLEY'S HOUSE MUSEUM, SHREWSBURY
- SOUTHGATE MUSEUM, LAUNCESTON: Morris 1988
- TORQUAY MUSEUM: Morris 1988
- TRINITY COLLEGE, DUBLIN [GEOLOGICAL MUSEUM]: Cocks; Morris 1988; Nudds 1982a, 1982b, 1982c, 1983, 1984, 1988, 1989; Tunnickliff; Wyse Jackson and Monaghan; Wyse Jackson and Sleeman
- TULLIE HOUSE MUSEUM AND ART GALLERY, CARLISLE: Cocks; Morris 1988
- ULSTER MUSEUM, BELFAST: Tunnickliff
- UNIVERSITY OF CAMBRIDGE, ZOOLOGICAL MUSEUM: Adams; Joysey
- UNIVERSITY MUSEUM, OXFORD: Andrews; Cocks; Knell; Morris 1988; Newman and Chatt-Ramsey; Powell and Edmonds; Pyrah 1978
- UNIVERSITY OF PORTSMOUTH [*Formerly Portsmouth Polytechnic*]: Torrens and Taylor
- WELLCOME INSTITUTE [*All type specimens transferred to the Natural History Museum, London*]: Torrens 1983
- WHITBY MUSEUM: Pyrah 1976
- WOLLATON HALL NATURAL HISTORY MUSEUM, NOTTINGHAM: Morris 1988
- WOOD END MUSEUM OF NATURAL HISTORY, SCARBOROUGH: Newman and Chatt-Ramsey
- WORCESTER CITY MUSEUM AND ART GALLERY: Cocks; Smith 1989
- YORKSHIRE MUSEUM: Manceñido and Damborenea; Pyrah 1976, 1977, 1978, 1979a, 1979b; Sarjeant

UNPUBLISHED INFORMATION

As a result of our soliciting information from many institutions while compiling this bibliography, a number of curators kindly commented on the status and availability of unpublished draft catalogues or on work in progress in identifying type, figured and cited specimens. These comments are quoted briefly here as they will be helpful to anyone suspecting that specimens they are attempting to trace might be in a particular museum. We have not seen the various manuscript catalogues quoted, and details from them are not included in the above indexes. Card index records in museums are not listed.

BIRMINGHAM UNIVERSITY, LAPWORTH MUSEUM. 'The type and figured catalogue was initiated by Laurie and ... is in manuscript only but is available upon request. The Type and Figured Collection currently comprises 2593 type, figured and cited specimens. A full computerised re-cataloguing programme is underway and a Type and Figured Catalogue will be published when this is completed'. [Paul Smith, Lapworth Museum, pers. comm. 1995]

BOOTH MUSEUM OF NATURAL HISTORY, BRIGHTON. Typescript for type and figured catalogue available. [John Cooper, Booth Museum, pers. comm. 1995]

- BRITISH GEOLOGICAL SURVEY, KEYWORTH, NOTTINGHAM. 'From 1984/5 all of BGS's type and figured palaeontological material from England and Wales has been housed at Keyworth. This includes all the material formerly housed at the Geological Museum, London, and the (mostly Carboniferous) collections held in Leeds from about 1959 to the time of the Keyworth move. Non-figured/cited material in the 'Survey Collection' was relocated at the same time. Most of the Scottish type and figured material which was housed at Murchison House in Edinburgh is now also at Keyworth (for exceptions see *Coprolite*, **14**, p. 2, 1994' [a newsletter of the Geological Curators' Group]). 'However, no comprehensive catalogue has been produced. The Type and Stratigraphic Collection amounts to approximately 250,000 specimens of which at least 30,000 are type/figured/cited specimens plus about 10,000 microfossils of similar status (Nudds 1994). ... Although BGS has begun to enter this information on the database, it will be many years before time allows completion. In the meantime, type material is accessible through the collections themselves, through the registers and through annotated copies of most journals and books. There are various as-yet-unpublished lists of donors, purchases and so on which can be made accessible and which, in part, formed the basis of' [the] 'entry for the Survey under "Institute of Geological Sciences" Cleevely (1983). ... These are also useful in tracking down type material.' [Steve Tunnicliff, BGS Keyworth, pers. comm. 1995]
- CENTRAL MUSEUM AND ART GALLERY, NORTHAMPTON. 'Much work has been carried out on the type, figured and cited specimens...' in the Beeby Thompson collection. It is hoped to produce a draft listing in the near future. [Angela Edgar, Central Museum, Northampton, pers. comm. 1995]
- HULL CITY MUSEUMS. Draft catalogue of the numerous type, figured and cited fossils lost in 1943 (prepared by P. J. Boylan) is available in typescript. [Heather Rayfield, Hull City Museums, pers. comm. 1995]
- NATIONAL MUSEUM OF IRELAND, DUBLIN. A number of typescript catalogues are 'available for research workers, and copies of sections of them have also been made available for various scientists in advance of publication. All are intended for publication eventually...' These include:
 Types, figured and cited specimens of fossils in the collection of Sir Richard John Griffith (1784–1878) including all specimens used by Frederick M'Coy in his works of 1844 and 1846. [for publication 1996]
 Types, figured and cited specimens of fossil plants in the collections of the National Museum of Ireland.
 Ditto... fossil cephalopods...
 Ditto... Lower Palaeozoic invertebrates...
 Ditto... fossil fish...
 Ditto... fossil amphibians...
 Ditto... fossil reptiles... [Nigel Monaghan, pers. comm. 1995]
- SEDGWICK MUSEUM, UNIVERSITY OF CAMBRIDGE. Catalogue of complete collections stored on computer. 'Complete hard-copy versions of the catalogue and a taxonomic index are generated periodically on microfiche' [R. B. Rickards, *Geology Today*, **1**, p. 184.]

SUPPLEMENTARY REFERENCES

In addition to the publications listed above in the main Bibliography, valuable information on the location of numerous other palaeontological collections is included in various sources. The following list is not necessarily comprehensive, but does include the main compilations referring to material in the British Isles published over the past 20 years. Especially valuable in many of them is information on collectors and the present whereabouts of their collections, which may lead investigators towards potential repositories of hitherto untraced type specimens. Information in square brackets following the references gives a summary of the scope of the publication. Further useful supplementary sources include the continuing 'Lost and Found' series in *The Geological Curator* (indexed up to 1987 in Vol. 5, No. 2; and indexed for 1987 to 1994 in Vol. 6, No. 4) and the 'Museum File' series published since 1985 in *Geology Today* (published six times a year by Blackwell Scientific Publications Ltd in association with the Geological Society of London and the Geologists' Association); this latter series summarizes the scope of palaeontological and other collections in museums throughout the British Isles, generally with reference to major collectors and important publications. Because of the importance of adopting the highest standards of curatorial procedures in storing and maintaining type collections, we also include here a number of recent references that specifically cover procedures for curation of geological materials.

- ARNOLD-FORSTER, K. 1989. *The collections of the University of London: a report and survey of the museums, teaching and research collections administered by the University of London*. London Museums Service, 41 pp. [Covers the history, development, scope (in very general terms), and current condition of collections in all London University colleges. The existence of some figured and cited specimens is noted].
- BASSETT, M. G. 1975. Bibliography and index of catalogues of type, figured and cited fossils in museums in Britain. *Palaontology*, **18**, 753–773.
- (ed.). 1979. Curation of palaeontological collections. *Special Papers in Palaontology*, **22**, 1–280. [Covers the role of collections and curators, curatorial problems and procedures, techniques, and exhibits].
- BATEMAN, J., MCKENNA, G. and TIMBERLAKE, S. (eds). 1993. *Natural science collections in south east Britain*. Published for the South Eastern Collections Research Unit and AMMSEE by the Museum Documentation Association, 283 pp. [Lists collections under collectors' name, and includes summaries of nature of collections, status, etc.].
- BRUNTON, C. H. C., BESTERMAN, T. P. and COOPER, J. A. (eds). 1985. *Guidelines for the curation of geological materials*. Geological Society Miscellaneous Paper, No. 17, 209 pp. [Prepared by the Geological Curators' Group, this loose-leaf manual covers acquisition, documentation, preservation, hazards and uses of geological material].
- CHILD, R. E. (ed.). 1994. *Conservation of geological collections. Proceedings of a conference held at the Welsh Folk Museum, National Museum of Wales, 4 November 1993*. Conservation Monograph Series, Archetype Publications, London, for the National Museum of Wales and the Council of Museums of Wales, 65 pp.
- CLEEVELY, R. J. 1983. *World palaeontological collections*. British Museum (Natural History), London, 365 pp. [Includes records of collections held in British and Irish institutions, together with information on the presence of type, figured, cited specimens and associated catalogues].
- COLLINS, C. (ed.). 1995. *The care and conservation of palaeontological material*. Butterworth-Heinemann Ltd, Oxford, 139 pp.
- CROWTHER, P. R. 1990. Collection care and status material. 515–517. In BRIGGS, D. E. G. and CROWTHER, P. R. (eds). *Palaebiology: a synthesis*. Blackwell, Oxford, xii + 583 pp.
- (ed.). 1992. Proceedings of a GCG meeting, Geology in Irish Museums, Trinity College Dublin, 21–22 June 1990. *Geological Curator*, **5**, 261–300. [Summarizes the history and general content of collections in Trinity College Dublin, National Museum of Ireland, Geological Survey of Ireland, University College Galway].
- DAVIS, P. and BREWER, C. (eds). 1986. *A catalogue of natural science collections in north-east England*. North of England Museums Service, 333 pp. [Gives list of collectors, plus summary of nature of collections and repositories].
- DOUGHTY, P. S. 1981. *The state and status of geology in United Kingdom museums. Report on a survey conducted on behalf of the Geological Curators' Group*. Geological Society of London, Miscellaneous Paper No. 13, 118 pp. [Comprehensive source of reference, based on questionnaires returned from c. 570 museums. Survey covered size, storage, named collections, condition, catalogue systems, geographical coverage. Appendices summarize scope of collections listed by collectors' names, cross-referenced with index of museums covered].
- HANCOCK, E. G. and PETTITT, C. W. (eds). 1981. *Register of natural science collections in N.W. England*. Manchester Museum, 188 pp. [Lists contents of geological, botanical, zoological collections in museums and related institutions, plus details of collectors, and existence of types].
- HARTLEY, M. M., NORRIS, A., PETTITT, C. W., RILEY, T. H. and STIER, M. A. (eds). 1987. *Register of natural science collections in Yorkshire and Humberside*. Area Museum Service for Yorkshire and Humberside. [Gives list of collectors, summary of nature of collections and status, etc.].
- INTERNATIONAL TRUST FOR ZOOLOGICAL NOMENCLATURE 1985. *International Code of Zoological Nomenclature, third edition, adopted by the XX General Assembly of the International Union of Biological Sciences*. University of California Press, Berkeley and Los Angeles, 338 pp.
- NUDDS, J. R. 1994. *Directory of British Geological Museums*. Geological Society of London, Miscellaneous paper, No. 18, 141 pp. [Includes published catalogues, status of collections, etc.].
- PAINE, C. (ed.). 1993. *Standards in the museum. 3. Care of geological collections*. Museums and Galleries Commission, London, 57 pp.
- STACE, H. E., PETTITT, C. W. E. and WATERSTON, C. D. 1987. *Natural science collections in Scotland*. National Museums of Scotland, 404 pp. + 8 microfiches. [Gives comprehensive summary of nature of collections, and status. All types of institution listed].
- WEBBY, B. D. (compiler) 1989. *Fossil collections of the world: an international guide*. International Palaeontological Association, Washington D.C. vi + 214 pp. [United Kingdom section covers national,

county/city and university museums. Summarizes size and scope of collections and indicates published catalogues and type material].

WIKTOR, J. and RYDZEWSKI, W. 1991. *Bibliography of catalogues of type specimens in [the] world's zoological and palaeozoological collections*. Wrocław University Press, Poland, 308 pp. Paperback [In English]. [Publication not seen, but referred to in Cooper's book review of Kabat and Boss in *Geological Curator*, 5, 372].

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Subsequent to submission of the manuscript, two further publications have been issued which give additional information on collections and individual specimens relevant to this compilation. They are noted here for reference and completeness but their contents are not included in the above indexes.

HARPER, D. A. T. and PARKES, M. A. 1996. Geological Survey donations to the Geological Museum in Queen's College Galway: 19th Century inter-institutional collaboration in Ireland. *The Geological Curator*, 6, 233–236.

STRACHAN, I. 1996. A bibliographic index of British graptolites (Graptoloidea). Part 1. *Monograph of the Palaeontographical Society*, 150 (600), 1–40.